

CLAIMS

What is claimed is:

1. A pickup inspecting apparatus inspecting performance of pickups mounted to a disk drive and reading data from a disk, comprising:
 - a disk driving unit rotatably supporting a disk; and
 - a plurality of pickup transferring units disposed around the disk driving unit, each holding a corresponding one of the pickups and transferring the pickups to the disk driving unit to read data recorded on the disk, so that the pickups held by corresponding ones of the pickup transferring units are inspected at once.
2. The pickup inspecting apparatus according to claim 1, further comprising:
 - a determiner transmitting a signal received from each pickup by a time division method; and
 - a controller controlling each pickup by receiving the signal of the pickup according to the time division method from the determiner.
3. The pickup inspecting apparatus according to claim 1, wherein the disk driving unit comprises:
 - a shaft to which the disk is supported; and
 - a spindle motor connected to the shaft to rotate the disk.
4. The pickup inspecting apparatus according to claim 3, further comprising:
 - a determiner transmitting a signal received from each pickup by a time division method; and
 - a controller controlling each pickup by receiving the signal of the pickup according to the time division method from the determiner.
5. The pickup inspecting apparatus according to claim 3, wherein the pickup transferring unit comprises:
 - a pickup holder holding the pickup;
 - an angle adjusting part connected to the pickup holder to adjust an angle of the pickup holder with respect to the disk driving unit; and

a feed motor connected to the angle adjusting part to transfer the pickup held by the pickup holder to the disk driving unit.

6. The pickup inspecting apparatus according to claim 5, further comprising:
a determiner transmitting a signal received from each pickup by a time division method;
and

a controller controlling each pickup by receiving the signal of the pickup according to the time division method from the determiner.

7. The pickup inspecting apparatus according to claim 5, further comprising:
a base member on which the disk driving unit and the pickup transferring units are seated, wherein the spindle motor is seated on the base member, the shaft is connected to the spindle motor, and the disk is coupled to the shaft so as to rotate together with the shaft.

8. The pickup inspecting apparatus according to claim 7, further comprising:
a determiner transmitting a signal received from each pickup by a time division method;
and
a controller controlling each pickup by receiving the signal of the pickup according to the time division method from the determiner.

9. The pickup inspecting apparatus according to claim 7, further comprising:
a guide block combined with the angle adjusting part under the angle adjusting part; and
a guide rail provided on the base member to guide the guide block, wherein the feed motor is connected to the guide block and moves the guide block along the guide rail.

10. The pickup inspecting apparatus according to claim 9, further comprising:
a determiner transmitting a signal received from each pickup by a time division method;
and
a controller controlling each pickup by receiving the signal of the pickup according to the time division method from the determiner.

11. The pickup inspecting apparatus according to claim 9, wherein the number of the pickup transferring units is 4 and arranged around the disk driving unit.

12. The pickup inspecting apparatus according to claim 11, further comprising:
a determiner transmitting a signal received from each pickup by a time division method;
and

a controller controlling each pickup by receiving the signal of the pickup according to the time division method from the determiner.

13. A pickup inspecting apparatus inspecting performance of a plurality of pickups,
comprising:

a disk driving unit rotatably supporting a disk; and
a plurality of pickup transferring units disposed around the disk driving unit to transfer the pickups to the disk driving unit, wherein the pickups are inspected at once in a programmed inspection.

14. The pickup inspecting apparatus according to claim 13, wherein the disk driving unit is a single driving unit, and the disk is a single disk.

15. The pickup inspecting apparatus according to claim 13, wherein the number of the pickup transferring units is more than 2.

16. The pickup inspecting apparatus according to claim 13, wherein the disk has a radius, and the pickup transferring units move in a radial direction of a center of the disk by a distance greater than the radius.

17. The pickup inspecting apparatus according to claim 13, wherein the pickup transferring units move between a first area corresponding to an inside area of the disk and a second area corresponding to an outside area of the disk.

18. The pickup inspecting apparatus according to claim 13, wherein the pickup transferring units move to pass through a circular line having the same radius as the disk.

19. The pickup inspecting apparatus according to claim 13, wherein all of the pickup transferring units are disposed in a circular area having the same radius of the disk.

20. The pickup inspecting apparatus according to claim 13, wherein all of the pickup

transferring units are disposed around the disk driving unit in an outside of an area corresponding to the disk

21. A pickup inspecting apparatus inspecting performance of a plurality of pickups, further comprising:

- a base member;
- a disk driving unit mounted on the base member to rotatably support a disk;
- a plurality of pickup transferring units mounted on the base member and disposed around the disk driving unit; and
- a controller controlling the pick transferring units to transfer the pickups to the disk driving unit and controlling the pickups to read data from the disk to be inspected at once.

22. The pickup inspecting apparatus according to claim 21, wherein the disk driving unit is a single driving unit, and the disk is a single disk.

23. A pickup inspecting apparatus inspecting performance of a pickup used in a disk drive, comprising:

- a base member;
- a disk driving unit mounted on the base member and having a spindle motor and a shaft rotatably coupled to the spindle motor; and
- a plurality of pickup transferring units mounted on the base member and disposed around the disk driving unit to be spaced-apart from each other in different radial directions of the shaft.

24. The pickup inspecting apparatus according to claim 13, wherein the disk driving unit is a single driving unit.

25. The pickup inspecting apparatus according to claim 23, wherein the pickup transferring units are disposed within a circular area around the shaft of the disk driving unit.

26. The pickup inspecting apparatus according to claim 23, wherein the pickup transferring units are disposed in a circular direction of the shaft of the disk driving unit.

27. The pickup inspecting apparatus according to claim 23, wherein the pickup

transferring units are disposed in an inspection area.

28. The pickup inspecting apparatus according to claim 23, wherein each pickup transferring unit moves between a first position spaced-apart from the shaft by a first distance and a second position spaced-apart from the shaft by a second distance greater than the first distance.

29. The pickup inspecting apparatus according to claim 28, wherein the first position is an inspection area, and the second position is a non-inspection area.

30. The pickup inspecting apparatus according to claim 29, wherein the pickup transferring units move sequentially along respective paths disposed between the corresponding first and second positions.

31. The pickup inspecting apparatus according to claim 29, wherein the pickup transferring units move simultaneously along respective paths disposed between the corresponding first and second positions.

32. The pickup inspecting apparatus according to claim 29, wherein the pickup transferring units move in a radial direction of the shaft of the disk driving unit.

33. The pickup inspecting apparatus according to claim 29, wherein the first position and the second position are disposed in a radial direction of the shaft of the disk driving unit.

34. The pickup inspecting apparatus according to claim 23, wherein the pickup transferring units are disposed opposite to each other with respect to the shaft of the disk driving unit.

35. A method in a pickup inspecting apparatus inspecting performance of a plurality of pickups, comprising:

rotatably supporting a disk on a disk driving unit; and
disposing a plurality of pickup transferring units around the disk driving unit; and
transferring a plurality of pickups disposed in corresponding ones of the pickup transferring units to the disk driving unit; and

inspecting all of the pickups at once.

36. The method according to claim 35, wherein the disk driving unit is a single driving unit, and the disk is a single disk.

37. A method in a pickup inspecting apparatus inspecting performance of a plurality of pickups, further comprising:

causing a disk driving unit and a plurality of pickup transferring units to be mounted on a base member;

rotatably supporting a disk on the disk driving unit; and

moving the pickup transferring units toward and away from the disk driving unit to transfer the pickups disposed on corresponding ones of the pickup transferring units to the disk driving unit to read data from the disk and inspect all of the pickups.

38. The method according to claim 37, wherein the disk driving unit is a single driving unit, and the disk is a single disk.

39. A method in a pickup inspecting apparatus inspecting performance of a plurality of pickups used in a disk drive, comprising:

causing a disk driving unit and a plurality of pickup transferring units to be mounted on a base member;

rotating a shaft rotatably coupled to a spindle motor disposed on the disk driving unit;

causing the pickup transferring units to be disposed around the disk driving unit and spaced-apart from each other in different radial directions of the shaft; and

controlling all of the pickup transferring units to be disposed around the shaft.

40. The method according to claim 39, wherein the disk driving unit is a single driving unit.